IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Wen Tong et al. **Examiner**: Hanh N. Nguyen
Serial No: 09/766,267 **Art Group**: 2662
Filing Date: January 19, 2001 **Docket No**: 11962ROUS02U
Title: FRAME STRUCTURE FOR VARIABLE RATE WIRELESS CHANNELS TRANSMITTING HIGH SPEED DATA

Date: 10/10/07

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDED APPEAL BRIEF

Applicants hereby file this Amended Appeal Brief in response to a Notification of Non-Compliant Appeal Brief mailed 9/26/07.

B. Table of Contents:

C. Real Party in Interest: All rights to the above referenced patent application have been assigned to:

Nortel Networks Limited
2351 Boulevard Alfred-Nobel
St. Laurent, Quebec
Canada, H4S 2A9

D. Related Appeals and Interferences:

There are no known other appeals or interferences that would directly or indirectly affect the Board's decision in the present appeal.

E. Status of the Claims:

1-4. (rejected)

5. (objected to)

6. (rejected)

7. (objected to)

8-11. (rejected)

12. (objected to)

13. (rejected)

14. (objected to)

15. (rejected)

16. (cancelled)

17. (rejected)

18. (objected to)

19-23. (rejected)

24. (allowed)

F. Status of amendments

No amendments have been submitted after the rejections of the Final Action.

G. Summary of Claimed Subject Matter:

Claims 1, 8, 15, 21, 22, 23, and 24 are independent. Generally, the claims of the present application all relate to a superframe structure employed in servicing high data rate wireless communications, creation of the superframe structure, and devices that generate or otherwise operate upon the superframe structure. In particular, claim 1 is directed to a method for operating a base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier using the superframe structure. Claim 8 is directed to the superframe structure. Claim 15 is directed to a method of operating a user terminal to wireless receive data communications carried by such a superframe structure. Claim 21 is directed to a base station that wirelessly transmits data communications using the superframe structure. Claim 22 is directed to a user terminal that wirelessly receives data communications carried by the superframe structure. Claim 23 is directed to a plurality of software instructions that, upon execution by a computer processor of a base station, cause the base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier using the superframe structure. Claim 24 is directed to a plurality of software instructions that, upon execution by a computer processor of a user terminal wirelessly to receive data communications carried by the superframe structure.

In particular, claim 1 is directed to a method for operating a base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier. Support for claim 1 is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4. According to the elements of claim 1, the base station repeatedly and sequentially

wirelessly transmits time division multiplexed superframes to the plurality of user terminals. Diagram 1 (FIG. 2 of the present application) illustrates one embodiment of a superframe structure according to the present application.

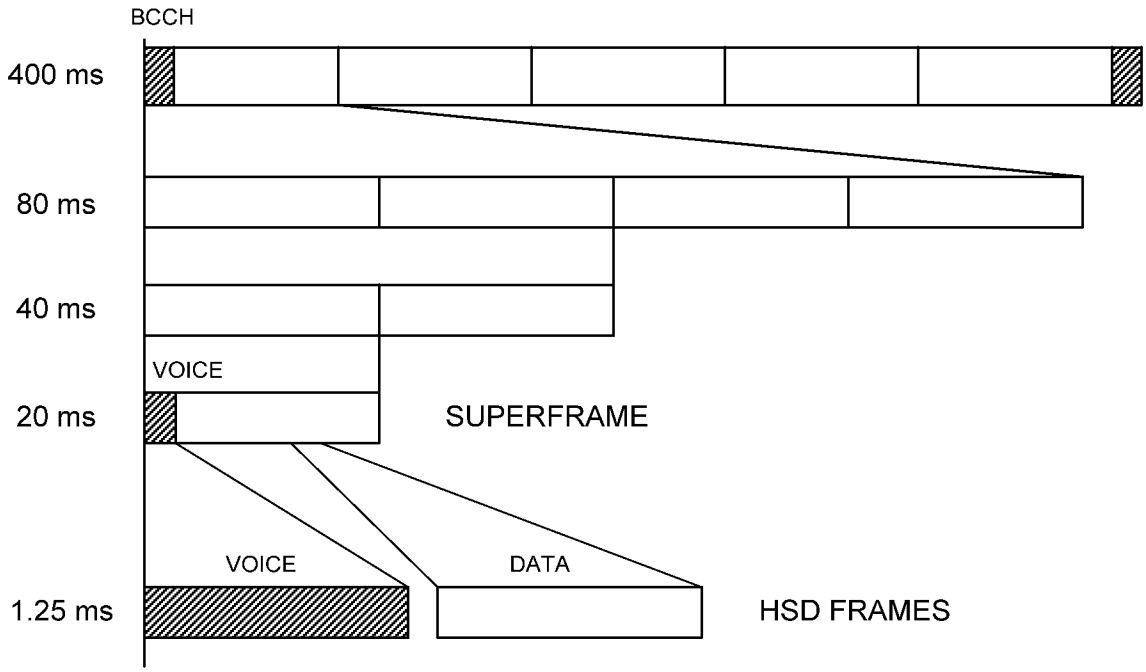


Diagram 1 - Superframe Structure (FIG. 2 of the present Application)

As shown in Diagram 1 (FIG. 2 of the present application), for one embodiment, each 20 ms time division multiplexed superframe carries a plurality of high speed data frames (HSD frames). Claim 1 requires that each of these high speed data frames carries at least one data communication and that each of these high speed data frames includes: (1) a respective indication of at least one user terminal for which the at least one data communication is intended; and (2) a respective indication of at least one data rate of the high speed data frame. FIG. 2 is described in the specification beginning at page 11, line 23 and continuing through page 12, line 11.

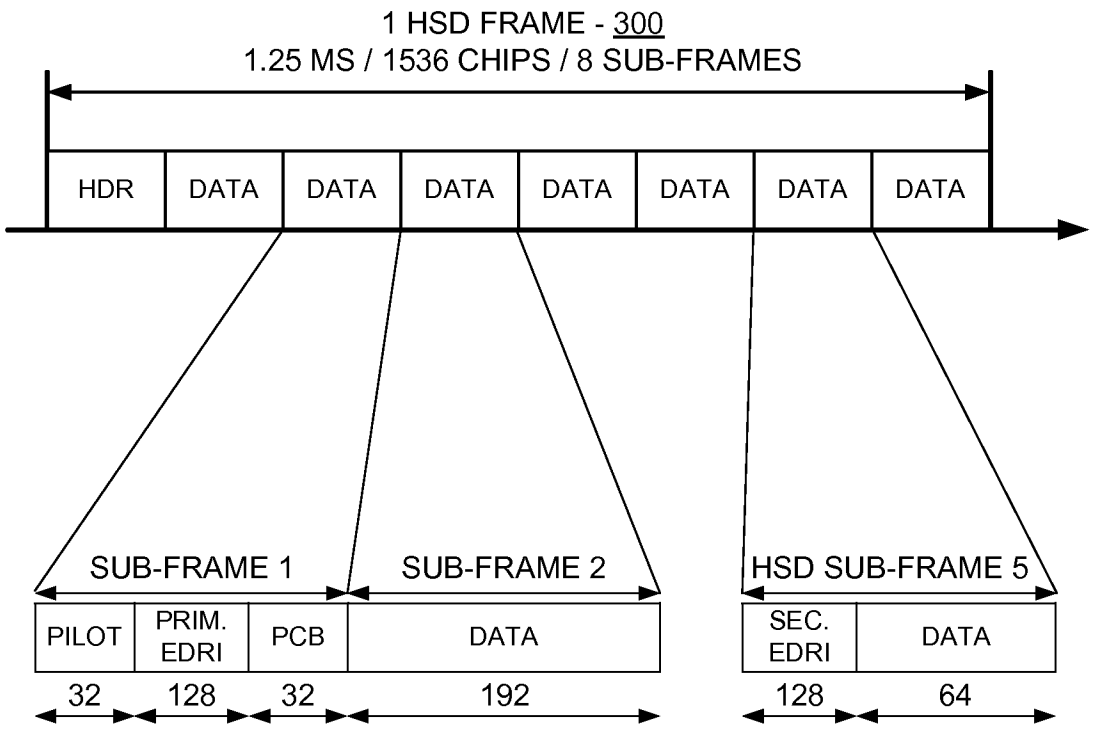


Diagram 2 - High Speed Data Frame Structure (FIG. 3 of the present Application)

Diagram 2 (FIG. 3 of the present application) illustrates one embodiment of a high speed data frame according to the present invention. With the language of representative claim 1 applied to Diagram 2, the "respective indication of at least one user terminal for which the at least one data communication is intended" and the "respective indication of at least one data rate of the high speed data frame" are included with of the explicit data rate indicator (EDRI). As stated in the specification of the present application at page 13, line 21 through page 14, line 4, (referring to FIG. 3 of the present application):

"The primary EDRI (and secondary EDRI, when included) provides an explicit indication of the data rate(s) for data contained in the HSD frame 300, the identities of the user terminal(s) for whom the data is intended, and the relative position of the data within the HSD frame 300. As will be further described with

reference to FIGs. 7 and 8, when the HSD frame contains both voice and data communications, the EDRI may also provide additional information relating to the voice communication. In the data only embodiment of FIG. 3, the EDRI includes a plurality of bits to indicate a data rate for the HSD frame 300, one bit to indicate that the HSD frame 300 carries data, and a plurality of bits to identify one or more user terminals for which the data in the HSD frame 300 is intended."

Claim 8 is directed to a superframe formed within a transmitting wireless device for carrying data communications intended for a plurality of user terminals, the superframe includes a plurality of high speed data frames; wherein each of the high speed data frames carries at least one data communication; and wherein each of the high speed data frames includes: a respective indication of at least one user terminal for which the at least one data communication is intended; and a respective indication of at least one data rate of the high speed data frame. Support for claim 8is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

Claim 15 is directed to a method of operating a user terminal to wirelessly receive data communications on a wireless carrier. The wireless terminal receives time division multiplexed superframes from a base station. Each superframe includes a plurality of high speed data frames, each of which includes a respective indication of at least one user terminal for which the at least one data communication is intended and a respective indication of at least one data rate of the high speed data frame. Support for claim 15 is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

Claim 21 is directed to a base station that acts as a transmitter to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier. The base station includes an antenna, a Radio Frequency unit, and at least one digital processor. The at least one digital processor executes software instructions that cause the base station to repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames; wherein each of the high speed data frames carries at least one data communication; and wherein each of the high speed data frames includes: a respective indication of at least one user terminal for which the at least one data communication is intended; and a respective indication of at least one data rate of the high speed data frame. Support for the structure of the base station is found in FIG. 13 and the related text of the specification beginning at page 25, line 21 and continuing to page 27, line 4. Additional support for claim 21 (relating to the superframe structure) is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

Claim 22 is directed to a user terminal that acts as a wireless receiver to wirelessly receive data communications on a wireless carrier. The user terminal includes an antenna, a Radio Frequency unit, and at least one digital processor. The at least one digital processor executes software instructions that cause the user terminal to repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals; for each of the plurality of high speed data frames, receive a respective indication of its contents that includes: a respective

indication of a user terminal for which the high speed data frame is intended; and a respective indication of a data rate of the high speed data frame; for each of the plurality of high speed data frames, determine whether the high speed data frame is intended for the user terminal; determine that a particular high speed data frame of the superframe is intended for the user terminal; and receive a data communication contained in the particular high speed data frame. Support for the structure of the user terminal is found in FIG. 14 and the related text of the specification beginning at page 27, line 5 and continuing to page 28, line 18. Additional support for claim 21 (relating to the superframe structure) is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

Claim 23 is directed to a plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a base station, cause the base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier. The plurality of software instructions include a set of instructions executed by the base station that cause the base station to repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames; wherein each of the high speed data frames carries at least one data communication; and wherein each of the high speed data frames includes: a respective indication of at least one user terminal for which the at least one data communication is intended; and a respective indication of at least one data rate of the high speed data frame. Support for the software instructions as residing within a base station is found in FIG. 13 and the related text of the specification beginning at page 25, line 21 and continuing to

page 27, line 4. Additional support for claim 21 (relating to the superframe structure) is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

Claim 24 is directed to a plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a user terminal, cause the user terminal to wirelessly data communications on a wireless carrier. The plurality of software instructions include a set of instructions executed by the user terminal that cause the user terminal to repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals; a set of instructions executed by the user terminal that cause the user terminal, for each of the plurality of high speed data frames, receive a respective indication of its contents that includes: a respective indication of a user terminal for which the high speed data frame is intended; and a respective indication of a data rate of the high speed data frame; a set of instructions executed by the user terminal that cause the user terminal to determine that a particular high speed data frame of the superframe is intended for the user terminal; a set of instructions executed by the user terminal that cause the user terminal to determine a data rate of the particular high speed data frame of the superframe based upon the respective indication; and a set of instructions executed by the user terminal that cause the user terminal receive a data communication contained in the particular high speed data frame. Support for the software instructions as residing within a user terminal is found in FIG. 14 and the related text of the specification beginning at page 27, line 5 and continuing to page 28, line 18. Additional support for claim 21 (relating to the

superframe structure) is found in FIGs. 2-7 and the related text of the specification beginning at page 11, line 23 and continuing to page 18, line 4.

H. Grounds of Rejection to be reviewed on Appeal:

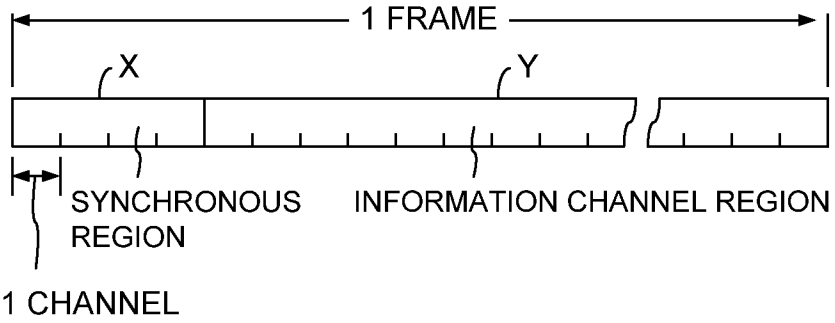
The applicants contend that claims 1, 2, 8, 9, and 15 are not unpatentable under 35 U.S.C. 103(a) over Hiyama et al. (U.S. Patent No. 4,855,995 "Hiyama") in view of Balachandran et al. (U.S. Patent No. 6,996,083 B1 "Balachandran"). The applicants further content that claims 6, 13, 19 and 21-23 are not unpatentable under 35 U.S.C. 103(a) over Hiyama in view of Balachandran and further in view of Mochizuki (U.S. Patent No. 6,628,633 B1). Applicants further contend that claims 3, 4, 10, 11, 17, 19, and 20 are not unpatentable under 35 U.S.C. 103(a) over Hiyama in view of Balachandran and further in view of Rydbeck et al. (U.S. Patent No. 6,332,006 B1 "Rydbeck"). Finally, applicants contend that claim 21 is directed to statutory subject matter and that the rejection under 35 U.S.C. 101 should be reversed.

I. Argument:

Claims 1, 2, 8, 9, and 15 are not unpatentable under 35 U.S.C. 103(a) over Hiyama in view of Balachandran.

The Office Action cites Hiyama as disclosing, among other elements of claim 1, both: (1) a respective indication of at least one user terminal for which the at least one data communication is intended; and (2) a respective indication of at least one data rate of the high speed data frame. The Office Action cites Hiyama at various locations as disclosing these limitations of claim 1, including the Abstract, Fig. 1, Fig. 2G, col. 3, lines 15-45, col. 5, lines 52-60, and col. 1, lines 10-15.

FIG. 2A (of Hiyama)



As is shown in FIG. 2A (reproduced above), and described in the related text, Hiyama discloses a frame ("Hiyama frame") produced by a node unit (transmitting device) and coupled to a common transmission line that is shared by a number of devices. The Hiyama frame includes a synchronous region X and an information channel region Y (col. 13, lines 48-49, Referring to FIG. 2A). The synchronous region X of the Hiyama frame includes four channels, each of which occupies a corresponding duration of time and includes a bit pattern (10 bits). The synchronous region X of the Hiyama frame is used by receiving terminals of the common transmission line to synchronize to the frame.

The information channel region Y of the Hiyama frame may include one or more of "a link control region," a "line switching region," and a "packet switching region." Hiyama discloses various combinations of these "regions" of the information channel region Y in Figs. 2C-2E. Each of these "regions" includes 10 bit channels. The information channel region Y may carry data to identify both a source device and a destination device. Thus, Hiyama fairly discloses a frame that identifies a terminal for which the data communication is intended.

However, the Office Action incorrectly asserts that Hiyama discloses a frame that includes "a respective indication of at least one data rate of the high speed data frame." In making this assertion, the Office Action incorrectly equates a valid/invalid bit B_{01} of a corresponding line switching region channel B_0 with "a respective indication of at least one data rate of the high speed data frame." (See Office Action at page 4, citing Hiyama at Col. 5, lines 52-60).

In making this rejection, the Office Action confuses a data rate supported by an external connection of a terminal with a data rate supported by the common transmission line/Hiyama frame. Hiyama provides an example in which a terminal supports an external connection at 50 bps (Hiyama, col. 5 lines 41-42). In its operations, the terminal receives data in an assigned channel B_0 of a Hiyama frame and transmits the received data via its external connection. The common transmission line and Hiyama frame support a data rate of the assigned channel B_0 of 64 Kbps (Hiyama, col. 5, lines 33-37). Thus, channel B_0 (common transmission line/Hiyama frame) supports a data rate greatly in excess of the 50 bps rate supported by the external connection of the terminal. With

this example, the terminal need only receive data every 1,000 frames or so via the common transmission line/Hiyama frame.

In order to address this issue, Hiyama discloses use of the valid/invalid bit B_{01}, of assigned channel B_0 that indicates whether the assigned channel B_0 of the current frame carries valid data. When the assigned channel B_0 carries data, bit B_{01} is set with a valid indication, e.g., "1". Alternately, when the assigned channel B_0 does not carry data, bit B_{01} is set with an invalid indication, e.g., "0". (Hiyama, col. 5, lines 51-55). Because not every Hiyama frame needs to carry data in assigned channel B_0 to support the terminal's external connection, a transmitting terminal may choose not to include data in assigned channel B_0 and to indicate that the data in the channel is invalid by setting bit B_{01} to "0". The receiving terminal then receives bit B_{01}, determines that it is "0", and does not further process the remaining bits of the assigned channel B_0.

Simply stated, the bit B_{01} of Hiyama discloses whether the data of the assigned channel B_0 is valid, not a data rate of the assigned channel B_0. The rate of the assigned channel B_0 of the Hiyama frame is fixed, not variable. Thus, Hiyama fails to disclose the element of claim 1 of "a respective indication of at least one data rate of the high speed data frame."

Balachandran is cited for teaching a base station that transmits time division multiplexed frames. Balachandran is *not cited for* teaching and does not teach a frame structure that includes "a respective indication of at least one data rate of the high speed data frame" as is required by claim 1. Thus, the combination of Hiyama and Balachandran fails to render obvious claim 1. Independent claims 8 and 15 include limitations similar to those of claim 1. For these same reasons, the combination of

Hiyama and Balachandran does not render obvious independent claims 8 and 15. Claim 2, which depends from claim 1, and claim 9, which depends from claim 8, are not rendered obvious by the combination of Hiyama and Balachandran for these same reasons.

Claims 6, 13, 19 and 21-23 are not unpatentable under 35 U.S.C. 103(a) over Hiyama in view of Balachandran and further in view of Mochizuki (U.S. Patent No. 6,628,633 B1)

Claims 6, 13, 19, and 21-23 (primary reasons)

Claim 6 depends from claim 1. Claim 13 depends from claim 8. Claim 19 depends from claim 15. Claims 21-23 include limitations similar to those of independent claim 1 relating to the data rate indications and respective indications of user terminals. For the reasons cited above, the combination of Hiyama and Balachandran fail to render obvious independent claim 1. Mochizuki fails to remedy the shortcomings of the combination of Hiyama and Balachandran. For these reason claims 6, 13, 19, and 21-23 are not rendered obvious by the combination of Hiyama, Balachandran, and Mochizuki. Claims 21, 22, and 23 include limitations same/similar to claim 1. Thus, for the reasons cited above, claims 21, 22, and 23 are not rendered obvious by the combination of Hiyama, Balachandran, and Mochizuki.

Claims 6 and 13 (additional reasons)

Claims 6 and 13 introduce additional limitations relating to the high speed data frame carrying "a plurality of reverse link power control bits intended for the plurality of user terminals." The Final Office Action cites Mochizuki at col. 11, lines 30-42 as

disclosing these additional limitations. However, Mochizuki only generally discloses the use of power control bits and DOES NOT DISCLOSE a high speed data frame that carries "a plurality of reverse link power control bits intended for the plurality of user terminals." For these additional reasons, claims 6 and 13 are not rendered obvious by the combination of Hiyama, Balachandran, and Mochizuki.

Claims 3, 4, 10, 11, 17, 19, and 20 are not unpatentable under 35 U.S.C. 103(a) over Hiyama in view of Balachandran and further in view of Rydbeck.

Claims 3, 4, 10, 11, 17, 19, and 20 (primary reasons)

Claims 3 and 4 depend from claim 1. Claims 10 and 11 depend from claim 8. Claims 17 and 19 depend from claim 15. Claim 20 depends from claim 19. For the reasons cited above, the combination of Hiyama and Balachandran fail to render obvious independent claims 1, 8, and 15. Rydbeck fails to remedy the shortcomings of the combination of Hiyama and Balachandran. For these reason claims 3, 4, 10, 11, 17, 19, and 20 are not rendered obvious by the combination of Hiyama, Balachandran, and Rydbeck.

Claims 3 and 10 (additional reasons)

Claims 3 and 10 depend from claims 1 and 8, respectively, and include the additional limitations of "supporting a plurality of coding rates and modulation schemes within the high speed data frames of a single superframe." The Final Office Action cites Rydbeck at Fig. 6A, col. 10, lines 5-25, and col. 11, lines 35-45. However, Rydbeck only generally describes the use of coding and differing modulation schemes. It fails to disclose supporting a plurality of coding rates and modulation schemes within a single

high speed data frame, as is required by the additional limitations of claims 3 and 10. For these additional reasons, the combination of Hiyama, Balachandran, and Rydbeck fail to render obvious claims 3 and 10.

Claims 4 and 11 (additional reasons)

Claims 4 and 11 depend from claims 1 and 8, respectively, and include the additional limitations of "coding the superframes with a plurality of Walsh codes prior to their transmission." The Final Office Action cites Rydbeck at Fig. 6A, col. 10, lines 5-25, and col. 11, lines 35-45. However, Rydbeck only generally describes the use of Walsh coding. It fails to disclose coding the superframe with a plurality of Walsh codes as required by claims 4 and 11. For these additional reasons, the combination of Hiyama, Balachandran, and Rydbeck fail to render obvious claims 4 and 11.

Claim 17 (additional reasons)

Claim 17 depends from claim 15 and includes the additional limitations of "decoding at least a portion of the superframe with a plurality of Walsh codes." The Final Office Action cites Rydbeck at Fig. 6A, col. 10, lines 5-25, and col. 11, lines 35-45. However, Rydbeck only generally describes the use of Walsh coding. It fails to disclose decoding the superframe with a plurality of Walsh codes as required by claim 17. For these additional reasons, the combination of Hiyama, Balachandran, and Rydbeck fail to render obvious claims 17.

Claim 21 is directed to statutory subject matter and that the rejection under 35 U.S.C. 101 should be reversed.

Claim 21 claims a base station that includes an antenna, a Radio Frequency unit, and at least one digital processor that perform a number of operations. Applicants argue that a base station is an apparatus, which is statutory subject matter.

J. Conclusion:

For the above-provided reasons, the Appellants respectfully request that the foregoing rejections be reversed and that the claims in the present application be allowed to issue.

RESPECTFULLY SUBMITTED,

By: _/Bruce E. Garlick, RN 36,520/_

Bruce E. Garlick
Registration No. 36,520
Phone: (512) 264-8816
Fax No. (512) 264-3735

K. Claims Appendix

1. A method for operating a base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the method comprising:

repeatedly and sequentially wirelessly transmitting time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes:

a respective indication of at least one user terminal for which the at least one data communication is intended; and

a respective indication of at least one data rate of the high speed data frame.

2. The method of claim 1, further comprising supporting a plurality of data rates within the high speed data frames of a single superframe.

3. The method of claim 1, further comprising supporting a plurality of coding rates and modulation schemes within the high speed data frames of a single superframe.

4. The method of claim 1, further comprising coding the superframes with a plurality of Walsh codes prior to their transmission.

5. The method of claim 1, further comprising:

coding the data communications of a high speed data frame using a first coding type; and

coding the respective indicator of the high speed data frame using a second coding type that is different from the first coding type.

6. The method of claim 1, wherein each of the high speed data frames further includes:

a pilot signal; and

a plurality of reverse link power control bits intended for the plurality of user terminals.

7. The method of claim 1, wherein:

a high speed data frame includes both a primary explicit data rate indicator and a secondary explicit data rate indicator;

wherein the primary explicit data rate indicator indicates:

a user terminal of the plurality of user terminals for which a first portion of the high speed data frame is intended; and

a data rate for the first portion of the high speed data frame; and

wherein the secondary explicit data rate indicator indicates a user terminal of the plurality of user terminals for which a second portion of the high speed data frame is intended.

8. A superframe formed within a transmitting wireless device for carrying data communications intended for a plurality of user terminals, the superframe comprising:

a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes:

a respective indication of at least one user terminal for which the at least one data communication is intended; and

a respective indication of at least one data rate of the high speed data frame.

9. The superframe of claim 8, wherein each superframe supports a plurality of data rates.

10. The superframe of claim 8, wherein each superframe supports a plurality of coding rates and modulation schemes.

11. The superframe of claim 8, wherein the superframe is coded with a plurality of Walsh codes prior to its transmission.

12. The superframe of claim 8, wherein:

the data communications of a high speed data frame are coded using a first coding type; and

the respective indicator of the high speed data frame are coded using a second coding type that is different than the first coding type.

13. The superframe of claim 8, wherein each of the high speed data frames of the superframe further includes:

a pilot signal; and

a plurality of reverse link power control bits intended for the plurality of user terminals.

14. The superframe of claim 8, wherein:

a high speed data frame of the superframe includes both a primary explicit data rate indicator and a secondary explicit data rate indicator;

wherein the primary explicit data rate indicator indicates:

a user terminal of the plurality of user terminals for which a first portion of the high speed data frame is intended; and

a data rate for the first portion of the high speed data frame; and

wherein the secondary explicit data rate indicator indicates a user terminal of the plurality of user terminals for which a second portion of the high speed data frame is intended.

15. A method of operating a user terminal to wirelessly receive data communications on a wireless carrier, the method comprising:

repeatedly and sequentially wirelessly receiving time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

for each of the plurality of high speed data frames, receiving a respective indication of its contents that includes:

a respective indication of a user terminal for which the high speed data frame is intended; and

a respective indication of a data rate of the high speed data frame;

determining that a particular high speed data frame of the superframe is intended for the user terminal based upon the respective indication;

determining a data rate of the particular high speed data frame based upon the respective indication; and

receiving a data communication contained in the particular high speed data frame.

16. (cancelled)

17. The method of claim 15, further comprising decoding at least a portion of the superframe with a plurality of Walsh codes.

18. The method of claim 15, further comprising:

decoding the respective indication contained in a high speed data frame using a first coding type;

determining that the high speed data frame of the superframe is intended for the user terminal after the decoding;

receiving a data communication contained in the high speed data frame; and

decoding the data communications of the high speed data frame using a second coding type that is different from the first coding type.

19. The method of claim 15, further comprising:

receiving a pilot signal contained in the high speed data frame; and

receiving a reverse link power control bit contained in the high speed data frame.

20. The method of claim 19, further comprising:

determining a channel quality indicator based upon the received pilot signal; and

reporting the channel quality indicator to a transmitting base station.

21. A base station that acts as a transmitter to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the base station comprising:

an antenna;

a Radio Frequency unit coupled to the antenna; and

at least one digital processor coupled to the Radio Frequency unit that executes software instructions causing the base station to:

repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes:

a respective indication of at least one user terminal for which the at least one data communication is intended; and

a respective indication of at least one data rate of the high speed data frame.

22. A user terminal that acts as a wireless receiver to wirelessly receive data communications on a wireless carrier, the user terminal comprising:

an antenna;

a Radio Frequency unit coupled to the antenna; and

a digital processor coupled to the Radio Frequency unit that executes software instructions causing the user terminal to:

repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

for each of the plurality of high speed data frames, receive a respective indication of its contents that includes:

a respective indication of a user terminal for which the high speed data frame is intended; and

a respective indication of a data rate of the high speed data frame;

for each of the plurality of high speed data frames, determine whether the high speed data frame is intended for the user terminal;

determine that a particular high speed data frame of the superframe is intended for the user terminal; and

receive a data communication contained in the particular high speed data frame.

23. A plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a base station, cause the base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the plurality of software instructions comprising:

a set of instructions executed by the base station that cause the base station to repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes:

a respective indication of at least one user terminal for which the at least one data communication is intended; and

a respective indication of at least one data rate of the high speed data frame.

24. A plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a user terminal, cause the user terminal to wirelessly data communications on a wireless carrier, the plurality of software instructions comprising:

a set of instructions executed by the user terminal that cause the user terminal to repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

a set of instructions executed by the user terminal that cause the user terminal, for each of the plurality of high speed data frames, receive a respective indication of its contents that includes:

a respective indication of a user terminal for which the high speed data frame is intended; and

a respective indication of a data rate of the high speed data frame;

a set of instructions executed by the user terminal that cause the user terminal to determine that a particular high speed data frame of the superframe is intended for the user terminal;

a set of instructions executed by the user terminal that cause the user terminal to determine a data rate of the particular high speed data frame of the superframe based upon the respective indication; and

a set of instructions executed by the user terminal that cause the user terminal receive a data communication contained in the particular high speed data frame.

L. Evidence Appendix

No evidence is being submitted with this Appeal Brief.

M. Related Proceedings Appendix

None.